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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PHAN, RAYMOND NGAN

ART UNIT	PAPER NUMBER
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2181

DATE MAILED: 04/24/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/639,149

Applicant(s)

VAIDY ANATHAN ET AL.

Examiner

Raymond Phan

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 2181

### **Part III DETAILED ACTION**

#### ***Notice to Applicant(s)***

1. This action is responsive to the following communications:  
amendment filed on February 13, 2003.
2. This application has been examined. Claims 1-17 are pending.

#### ***Specification***

3. The title of the invention is accepted.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-4, 11-13, 17 are rejected under 35 U.S.C. § 102(e) as being anticipated by Smyers et al. (US No. 6,233,637).

In regard to claim 1, Smyers et al. disclose a bridge comprising a plurality of interface registers that are configured to facilitate communication of data with a plurality of function units (see col. 3, lines 37-

Art Unit: 2181

52); and a plurality of register transfer unit, operably coupled to the plurality of interface registers, that facilitate transfers of data among interface registers of the plurality of interface registers (see col. 3, line 64 through col. 4, line 7).

In regard to claims 2, 4, Smyers et al. disclose the bridge further comprising an instruction memory that is configured to contain register transfer instructions wherein the operable coupling of the plurality of register transfer units and the plurality of function units is effected via the register transfer instructions (see col. 11, lines 28-49).

In regard to claim 3, Smyers et al. disclose the bridge further comprising at least one datapath unit, operably coupled to the plurality of register transfer unit, that facilitate a transformation of at least one data item of the data that is transferred among the interface registers (see col. 6, lines 16-39).

In regard to claim 11, Smyers et al. disclose the method of receiving data at plurality of interface registers, operable to communicate with a plurality of function units (i.e. applications) (see col. 3, lines 30-52); allowing at least one of function units to process the data in at least one interface registers (see col. 3, lines 38-45); communicating the data among at least two of the interface registers using the plurality of register transfer units (see col. 12, lines 49-67); allowing at least one of the function units to further processor the data in at least one of the interface registers (see col. 12, lines 28-48).

In regard to claim 12, Smyers et al. disclose wherein the data among at least two of the interface registers comprises using register transfer instruction in the instruction memory (i.e. control register) to communicate

Art Unit: 2181

the data among at least two of the interface registers (see col. 12, line 49 through col. 13, line 65).

In regard to claim 13, Smyers et al. disclose the transforming (i.e. manipulating) at least one data item of the data that is transferred among the interface registers (see col. 13, lines 1-65).

In regard to claim 17, Smyers et al. disclose the communication the decoded signal stream to a user application operable to render an output corresponding to a channel of the digital input stream based on the decoded signal stream (see col. 19, lines 35-64).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-10, 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smyers et al. in view of Applicant Admitted Prior Arts (hereinafter AAPA).

In regard to claims 5, 10, 14, Smyers et al. teach the claimed subject matter as discussed above except the teaching of DSP. However AAPA discloses the use of DSP (see page 2 of present application specification). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of AAPA within the system of Smyers et al. because it would help the bridge to process the digital data efficiently.

In regard to claims 6, 15-16, Smyers et al. disclose receiver is configured to provide a digital input stream (see col. 3, lines 43-64); a bridge comprising a plurality of interface registers that are configured to facilitate communication of data with a plurality of function units (see col. 3, lines 37-52); and a plurality of register transfer unit, operably coupled to the plurality of interface registers, that facilitate transfers of data among interface registers of the plurality of interface registers (see col. 3, line 64 through col. 4, line 7). But Smyers et al. do not specifically teach a channel decoder, operably coupled to the receiver, that is configured to decode the digital input stream into a decoded signal stream. However AAPA disclose the channel decoder, operably coupled to the receiver, that is configured to decode the digital input stream into a decoded signal stream (see page 1 in the present application specification). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of AAPA within the system of Smyers et al. because it would modify the bridge to transmit simultaneously digital data across the bus structure.

In regard to claims 7, 9, Smyers et al. disclose the bridge further comprising an instruction memory that is configured to contain register transfer instructions wherein the operable coupling of the plurality of register transfer units and the plurality of function units is effected via the register transfer instructions (see col. 11, lines 28-49).

In regard to claim 8, Smyers et al. disclose the bridge further comprising at least one datapath unit, operably coupled to the plurality of register transfer unit, that facilitate a transformation of at least one data item

Art Unit: 2181

of the data that is transferred among the interface registers (see col. 6, lines 16-39).

### ***Response to Arguments***

8. In view of remarks filed on February 13, 2003, claims 1-10 have been fully considered but they are not deemed to be persuasive.

Applicant(s) argue that ...Smyers et al. fail to suggest/teach the step of transferring data between the registers in the data pipes... (page 8). The Examiner does not agree. Smyers et al. teach step of transferring data between the registers in the data pipes (see col. 12, line 28 through col. 13, line 65).

### ***Conclusion***

9. All claims are rejected.

10. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

**Barkowiak (US No. 5,732,251)** discloses a DSP with register file and multi-function instruction sequencer for vector processing by MACU.

**Dowling (US No. 6,487,654)** discloses a virtual shadow registers and virtual register windows.

**Boreland (US No. 4,926,355)** discloses a digital signal processor architecture with an ALU and a serial processing section operating in parallel.

Art Unit: 2181

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (703) 306-2756. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary Examiner, Ray Gopal can be reached on (703) 305-9647 or via e-mail addressed to ray.gopal@uspto.gov. The fax phone number for this Group is (703) 746-7239.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

RP



PAUL R. MYERS  
PRIMARY EXAMINER

**Raymond Phan**

4/18/03